

COMMENTARY | SPECIAL ISSUE: ACCULTURATION REIMAGINED

Unpacking the integration puzzle: Overlooked insights from meta-analytical research. A Response to Berry (2025)

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In his commentary on the special issue “Acculturation reimagined”, Berry (2025) puts forward several criticisms of our study published in this issue (Vu & Bierwiazzonek, 2025). Yet, Berry’s criticism of our outdated binary approach to acculturation fails to acknowledge that, as any meta-analysis, our study reflects the limitations of the meta-analyzed data, most of which come from projects led by Berry himself. Further, Berry’s criticism of the interaction term as an operationalization of integration misrepresents what interaction is, and confuses our meta-analytical test of individual-level moderation with study-level moderation and primary data analysis. Instead of dismissing the obvious weaknesses of meta-analytical evidence on integration using misplaced arguments, the acculturation field should seriously consider two insights largely overlooked in the integration debate. First, based on our previous work, the positive effects attributed to integration are mainly driven by mainstream culture orientation, while their heterogeneity can be attributed to heritage culture orientation. Second, based on my reanalysis of Grigoryev et al. (2023) that disentangled four levels of effect variability (variability due to sampling error, to methods, to sample characteristics, and to country contexts), this heterogeneity is unlikely to originate primarily from differences between receiving country contexts, and its true causes remain unknown.

Keywords: acculturation, cross-cultural adaptation, integration hypothesis, meta-analysis

1. INTRODUCTION

In his commentary on the special issue “Acculturation reimagined”, Berry (2025) puts forward several criticisms of our study, published as part of this issue (Vu & Bierwiazzonek, 2025). These criticisms, I believe, are characteristic of the ongoing debate around the integration hypothesis in that instead of focusing on real problems, they focus on theoretical and methodological issues that are not directly relevant to the evidence at hand. Yet, because these comments might reflect common misunderstandings of meta-analytical evidence in the field of acculturation, I believe they are worth clarifying within the context of what meta-analytical findings really reveal. In this response, I first directly address these criticisms and then, perhaps more importantly, I discuss some of the key insights from meta-analytical findings that have been consistently overlooked in the integration debate. The acculturation field should seriously consider these insights in order to move forward.

2. PROBLEMS WITH BERRY’S CRITICISM

2.1 Meta-analyses Cannot Go Beyond the Primary Literature

Berry’s first criticism is that our paper focuses on the classic binary version of the integration hypothesis, involving the orientation toward the mainstream culture and the heritage culture, and ignoring the myriads of other cultures that constitute multicultural societies. Further, he points out that we only defined and tested integration in relation to migrants and ethnic minorities, while the current state of the world is more complex, and acculturation processes occur across entire societies. While these observations are correct, Berry’s criticism fails to acknowledge two crucial points.

First, our paper was not intended as an attack on the integration hypothesis, but as a methodological critique of the existing meta-analyses testing this hypothesis, including our own

(Bierwiazzonek & Kunst, 2021). We showed that the methods used previously (in the absence, of better approaches, until recently), should not be trusted (Vu & Bierwiazzonek, 2025), a point that Berry does not refer to at all.

Second, the reason why our study focused on binary acculturation and defined it in relation to migrants and ethnic minorities was that we used, as one data source, the dataset from ICSEY – a project led, among others, by Berry himself (Berry et al., 2006). Like much of the acculturation literature, ICSEY measured acculturation as a binary, and was limited to the migrant population. While Berry is correct that these conditions qualify our findings, the same is true for the meta-analyses we criticized, also those co-authored by Berry (Abu-Rayya et al., 2023; Berry et al., 2022; Grigoryev et al., 2023). Thus, Berry’s criticism applies in the first place to the meta-analyzed acculturation literature. While I agree that this literature would be well-advised to move on from the classic integration hypothesis, addressing this issue was far beyond the scope of our paper. There are currently other studies and approaches that attempt to do it, for instance, the majority acculturation research (Kunst, 2025; Kunst et al., 2021, 2023).

Interestingly, despite acknowledging the limitations of the binary approach behind the integration hypothesis, Berry (2025, p. 3, references removed) defends it, writing: “Whether using midpoint splits, difference scores, latent profile models, multi-strategy assessments, or qualitative interviews, the same general pattern emerges: Individuals identified as following the integration strategy typically report better adaptation than those using other strategies.” By stating so, he overlooks a critical insight from our work: These findings arose because they were driven by only one of the two cultural orientations, namely the orientation toward the mainstream culture, which, due to suboptimal methods and psychometric artifacts, was mistaken for integration. This is a point we empirically demonstrated and described in detail

twice (Bierwiazzonek et al., 2023; Vu & Bierwiazzonek, 2025). I will return to it later in this commentary.

2.2 The Integration Hypothesis Is an Interaction Hypothesis and Should Be Tested as Such

In his next criticism, Berry misrepresents what interaction effects are. He writes “As originally proposed, the integration hypothesis was not about whether the combination of two orientations predicts outcomes above zero, but whether the strategy of simultaneous and active engagement is associated with better adaptation than alternative strategies such as assimilation, separation, or marginalisation” (Berry, 2025, p. 2). Yet, predicting outcomes above zero is the very definition of any null hypothesis testing, and simultaneous engagement is exactly what the interaction term tests. A significant interaction, followed up by simple slopes analyses, shows how an outcome of interest (here, adaptation) changes when people are simultaneously higher (or lower) on both or either of the tested dimensions (Baron & Kenny, 1986). Such a test cannot be achieved with the approaches used in previous meta-analyses, including some of those Berry defends, because these approaches are flawed. We reported on these flaws and the resulting bias (Vu & Bierwiazzonek, 2025) against an anonymous reviewer’s advice to not even mention them because of how obvious they are¹. I will refrain from discussing these findings here for a second time.

Lastly, Berry (2025) misinterprets the meta-analytical interactions our study tested. It is a point worth clarifying because our methods were complex and could be similarly misunderstood by other readers less familiar with meta-analysis. Berry (2025, p. 3, references removed) writes: “interaction effects are known

to be fragile and highly dependent on modeling decisions—including centering, scaling, and distributional assumptions—and they are often underpowered in the context of meta-analysis, where heterogeneity across studies further undermines reliability.” The references he uses to support this statement are irrelevant because they refer to interaction tests in primary studies (Ganzach, 1997; McClelland & Judd, 1993; Rimpler et al., 2025; Sommet et al., 2023), which rarely achieve the sample size and statistical power of a meta-analysis. Meta-analytical moderations are only mentioned once (Murphy & Russell, 2016), specifically, moderations at *the study level*. Such tests use the study sample as the unit of analysis, and sample averages as moderators, for example to test if the effect is stronger or weaker in studies in which participants’ average age is higher or lower. Such an approach is prone to ecological fallacy (Geissbühler et al., 2021; Tipton et al., 2019) and would be completely inadequate for testing the integration hypothesis. We, in contrast, tested *individual-level interactions* using individual data from well-powered primary studies, with interactions between heritage and mainstream culture orientations calculated for individual participants, not entire samples. This approach eliminates the risk of ecological fallacy and does not suffer from power issues reported for primary studies because the *p*-value is calculated across primary studies. That is, this point of Berry’s criticism is entirely misplaced.

3. OVERLOOKED INSIGHTS FROM META-ANALYTICAL FINDINGS

It is striking that despite the remarkably consistent results across the different meta-analyses of integration, meta-analysts and other researchers still come to polar opposite conclusions. The only facts that seem to have been established beyond doubt is that acculturation

¹ Readers can refer to Reviewer 2’s comments in the transparent peer review file attached to the online version (<https://doi.org/10.56296/aip00038.pr>) of Vu & Bierwiazzonek (2025): “The four methods that you present are clearly problematic. I fail to see why a demonstration of their effects or even a simulation to see what the effects do look like is meaningful in any way (...) In summary, these methods do have obvious flaws and issues. Why do we need to give them more airway?”

effects are small and heterogeneous (Kunst, 2021). Yet, there is still controversy as to what these effects mean and whether they actually support the acculturation hypothesis. In the remainder of this paper, I discuss two critical insights from meta-analyses that should be seriously considered in this debate, namely: (1) The small effects attributed to integration are driven by mainstream culture orientation, and (2) the heterogeneity of integration effects is unlikely to be primarily due to culture or country contexts.

3.1 Mainstream Culture Orientation, Not Integration, Is Consistently Associated with Positive Adaptation Outcomes

There is ample evidence that mainstream culture orientation is a more reliable correlate of adaptation than heritage culture orientation or integration. In our longitudinal meta-analysis of the four acculturation strategies and the two cultural orientations (Bierwiazzonek & Kunst, 2021), only mainstream culture orientation showed some, albeit limited, positive effects on adaptation over time. In cross-sectional data, mainstream culture orientation showed larger effects than heritage culture orientation (Abu-Rayya et al., 2023; Bierwiazzonek et al., 2023), and in heterogeneity analyses, these effects turned out to be consistently positive, which was not the case for integration and heritage culture orientation (Bierwiazzonek et al., 2023).

Up to this point, however, the evidence for the key role of mainstream culture orientation was indirect. Our study (Vu & Bierwiazzonek, 2025) demonstrated it directly. We meta-analytically showed that the main effect of mainstream culture orientation explains roughly as much variance in adaptation outcomes as a model with both orientations and an interaction term corresponding with integration. In other words, trying to predict adaptation outcomes with both cultural orientations and their interaction does not have any advantage over predicting it with mainstream culture orientation only. Previous meta-analyses obscured this result by using biased operationalizations of integration

that could not distinguish between endorsing both orientations simultaneously and endorsing only one of them.

In other words, real-world migrants and ethnic minority members oriented toward the mainstream culture are more likely to achieve better adaptation outcomes regardless of their heritage culture orientation or other individual and contextual conditions. Of course, these associations may vary in strength, do not necessarily represent a causal effect and cannot be expected to be consistent across all primary studies with no exception (see, for example, Héritier et al., 2025). However, heritage culture orientation is much more likely to sometimes produce positive, and sometimes negative associations with adaptation, and integration, regardless of operationalization, inherits this inconsistency from it. Therefore, the size of the effects misinterpreted as integration in previous meta-analyses can be attributed to mainstream culture orientation, while their inconsistency can be attributed to heritage culture orientation.

3.2 The Heterogeneity of Integration Effects Is Not Primarily Due To Country Contexts: Reanalysis of Grigoryev et al. (2023)

The key question, thus, seems to be: What is behind the inconsistency of heritage culture orientation effects, and by consequence integration effects? Some answers proposed so far emphasize country-level factors such as migration-related policies, attitudes, and similar (Grigoryev & Berry, 2022; Grigoryev et al., 2023; Kushnord & Ward, 2015; Ward, 2024). While such factors may indeed play *some* role, in light of meta-analytical results, the primary source of the inconsistency of effects is unlikely to lie at the country level.

In their multilevel meta-analyses of three datasets (Nguyen & Benet-Martínez, 2012; MIRIPS, Berry et al., 2022; ICSEY, Berry et al., 2006), Grigoryev et al. (2023) reported that, depending on the dataset, the country level accounted for 16.22%, 3.25%, and 8.47% of the variance of the association between integration and

adaptation. The data for this analysis are publicly available, but the analysis code is not, and I was therefore not able to directly reproduce these results. Instead, I reanalyzed the data using my own code with the typical specification of a model involving a country level, which consists of four levels rather than, as the original authors proposed, three levels (Cheung, 2014). Level 1 corresponds with sampling variance, Level 2 with variance within studies, Level 3 with variance between studies but within countries, and Level 4 with variance between countries (see Cheung, 2014, 2019). In this reanalysis, the variance between countries accounted for 11.23% in Nguyen and Benet-Martínez' data, 14.50% in MIRIPS and 7.35% in ICSEY (see <https://osf.io/x5m4t/files> for full results and code). Although these results differ from those reported by Grigoryev and colleagues, the conclusion remains the same: Differences between receiving countries are responsible for no more than ~15% of the variability of the effects, and this is the maximum country-level factors can explain.

Where should we look for critical factors explaining this variability, then? According to my reanalysis of Grigoryev et al. (2023), these factors are either methodological or related to differences between groups of participants other than the countries they reside in. Most of the variability of effects lies within studies (Level 2, 53.38% in Nguyen & Benet-Martínez data, 43.56% in MIRIPS and 34.78% in ICSEY) and can be attributed to methods, for instance different measures of acculturation or adaptation applied to the same participants. The second major source of variability resides between studies within countries (Level 3, 27.84%, 27.22% and 19.88%, respectively; this level was not modelled by Grigoryev et al., 2023, as per their description). This portion of variability arises from the differences between different groups of participants not attributable to the country level, which could include the characteristics distinguishing the study samples or participants in these samples.

Which characteristics are these? The original authors claimed to have explained 20-23% of the overall heterogeneity with a set of moderators including indicators of migrant acceptance, multicultural policy, religious affiliation of participants, the type of society (settler or non-settler), and the dimension of adaptation (psychological, socio-cultural; in one dataset also health-related). I was not able to reproduce this result. In my reanalysis, these moderators explained 2.53% of heterogeneity in Nguyen and Benet-Martínez' data, 0% of variance in the MIRIPS data and 5.31% in ICSEY data (the only significant result; see Supplementary Online Materials, Table S1-S3). Of note, however, the kind of measure of adaptation, an additional moderator only available for the ICSEY data, by itself accounted for a whopping 31.40% of total heterogeneity in this dataset, suggesting that the effects are considerably larger when adaptation is measured using positive indicators. The distinction between negative and positive indicators of adaptation could thus explain much of the methods-related heterogeneity (Level 2).

Yet, all that this analysis tells us about the sample characteristics causing between-studies variability (Level 3) is that they are probably *not* the ones tested by Grigoryev et al. (2023). Such characteristics could correspond with a wide array of factors, including, but not limited to, study-specific factors (e.g., time of data collection), immediate contexts of reception below the country level (e.g., experiences of discrimination), or even individual differences (e.g., identity styles, personality differences). Variability between samples could be consistent with assumptions of some existing approaches, such as models proposing individual-level differences in cultural identity styles (Ward et al., 2018) and bicultural identity integration (Benet-Martínez & Haritatos, 2005), differences between developmental stages (Titzmann & Jugert, 2024), and other individual and socioecological sources of variation (see Ward & Geeraert, 2016; Ward & Szabó, 2023, for an overview).

It is among such factors that some of the most meaningful sources of effect variability can likely be found. This is, of course, a hint rather than an answer. Still, it is important to keep in mind that it is specifically the contribution of heritage culture orientation to this variability that needs to be better understood.

4. CONCLUSION

Too often, the debate around the integration hypothesis has been reduced to discussions around the size of effects and their significance (e.g., Grigoryev et al., 2025). If this is indeed what the field is interested in, our recent work (Bierwiazzonek et al., *accepted*; Vogel et al., *under review*) reveals a number of significant correlates of cross-cultural adaptation that yield much larger and more consistent effects than integration, heritage culture orientation or mainstream culture orientation. These include perceptions of discrimination ($r = -.38$ with socio-cultural adaptation), connectedness ($r = .38$; Bierwiazzonek et al., *accepted*), or adjustment of the migrant's family members ($r = .33$; Vogel et al., *under review*). If proven causal, these effects are far better candidates to inform policy and practice than integration, however we operationalize it.

Even so, it would be a waste not to take full advantage of the extensive meta-analytical evidence produced recently to better understand the interplay of acculturation and adaptation. Here, I discussed in-depth insights from this evidence that have been, but should not be, overlooked so far. Specifically, the positive effects attributed to integration are mainly driven by mainstream culture orientation, while the heterogeneity of these effects can be attributed to heritage culture orientation and is unlikely to originate primarily from differences between receiving country contexts. Of course, this is not an exhaustive list of issues to be taken seriously; other problems remain, and perhaps the most significant of them is the lack of causal evidence (Bierwiazzonek & Kunst, 2021; Kunst, 2021; see also Doucerain et al., 2023, for a study

suggesting reverse causation).

Repeated calls to dismiss the obvious weaknesses of meta-analytical evidence on integration (Berry, 2025; Grigoryev et al., 2025; Grigoryev & Berry, 2022) are unlikely to help the acculturation field move forward. With this commentary, I instead call for a serious and deep examination of this evidence beyond the size and statistical significance of the effects, as it has much more to reveal about the true dynamics of acculturation, integration and adaptation.

5. CONFLICTS OF INTEREST

The author declares that there are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

6. DATA AVAILABILITY STATEMENT

Data for the reanalysis are publicly available as a supplement to Grigoryev et al. (2023) via the link <https://ars.els.cdn.com/content/image/1-s2.0-S0147176723001451-mmcl.xlsx>. Reanalysis code is available via OSF at <https://osf.io/x5m4t/files>.

REFERENCES

- Abu-Rayya, H. M., Berry, J. W., Sam, D. L., & Grigoryev, D. (2023). Evaluating the integration hypothesis: A meta-analysis of the ICSEY project data using two new methods. *British Journal of Psychology*, 114(4), 819-837. <https://doi.org/10.1111/bjop.12656>
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Benet-Martínez, V., & Haritatos, J. (2005). Bicultural identity integration (BII): components and psychosocial antecedents. *J Pers*, 73(4), 1015-1049.

<https://doi.org/10.1111/j.1467-6494.2005.00337.x>

- Berry, J. W. (2025). Comments on the papers in the Special Issue "Acculturation reimagined: Setting the stage for the next era of inquiry". *advances.in/psychology*, 2, e00432. <https://doi.org/10.56296/aip00041>
- Berry, J. W., Lepshokova, Z., Collaboration, M., & Grigoryev, D. (2022). How shall we all live together?: Meta-analytical review of the mutual intercultural relations in plural societies project. *Applied Psychology*, 71(3), 1014-1041. <https://doi.org/10.1111/apps.12332>
- Berry, J. W., Phinney, J. S., Sam, D. L., & Vedder, P. (2006). Immigrant youth in cultural transition: Acculturation, identity, and adaptation across national contexts. In *Immigrant youth in cultural transition: Acculturation, identity, and adaptation across national contexts*. Lawrence Erlbaum Associates Publishers. <https://doi.org/10.4324/9780415963619>
- Bierwiazzonek, K., Cheung, M. W. L., & Kunst, J. R. (2023). Revisiting the integration hypothesis again: High heterogeneity complicates the interpretation of cross-sectional evidence. *International Journal of Intercultural Relations*, 93, 101780. <https://doi.org/10.1016/j.ijintrel.2023.101780>
- Bierwiazzonek, K., & Kunst, J. R. (2021). Revisiting the Integration Hypothesis: Correlational and Longitudinal Meta-Analyses Demonstrate the Limited Role of Acculturation for Cross-Cultural Adaptation. *Psychological Science*, 32(9), 1476-1493. <https://doi.org/10.1177/09567976211006432>
- Cheung, M. W. L. (2014). Modeling dependent effect sizes with three-level meta-analyses: A structural equation modeling approach. *Psychological Methods*, 19(2), 211-229. <https://doi.org/10.1037/a0032968>
- Cheung, M. W. L. (2019). A Guide to Conducting a Meta-Analysis with Non-Independent Effect Sizes. *Neuropsychology Review*, 29(4), 387-396. <https://doi.org/10.1007/s11065-019-09415-6>
- Doucerain, M. M., Amiot, C. E., Jurcik, T., & Ryder, A. G. (2023). What Comes First, Acculturation or Adjustment? A Longitudinal Investigation of Integration Versus Mental Resources Hypotheses. *Personality and Social Psychology Bulletin*, 51(7), 1187-1204. <https://doi.org/10.1177/01461672231210460>
- Ganzach, Y. (1997). Misleading interaction and curvilinear terms. *Psychological Methods*, 2(3), 235-247. <https://doi.org/10.1037/1082-989X.2.3.235>
- Geissbühler, M., Hincapié, C. A., Aghlmandi, S., Zwahlen, M., Jüni, P., & da Costa, B. R. (2021). Most published meta-regression analyses based on aggregate data suffer from methodological pitfalls: a meta-epidemiological study. *BMC Medical Research Methodology*, 21(1), 123. <https://doi.org/10.1186/s12874-021-01310-0>
- Grigoryev, D., & Berry, J. W. (2022). "Causality crisis" in acculturation research a false alarm?: A commentary on Kunst (2021). *International Journal of Intercultural Relations*, 86, 158-162. <https://doi.org/10.1016/j.ijintrel.2021.12.003>
- Grigoryev, D., Berry, J. W., Stogianni, M., Nguyen, A.-M. D., Bender, M., & Benet-Martínez, V. (2023). The integration hypothesis: A critical evaluation informed by multilevel meta-analyses of three multinational datasets. *International Journal of Intercultural Relations*, 97, 101897. <https://doi.org/10.1016/j.ijintrel.2023.101897>
- Grigoryev, D., Gallyamova, A., & Komyaginskaya, E. (2025). Reassessing the metrics of integration: Toward eliminating the blur between theory and statistics to clarify effect sizes, measurement, and causality in acculturation psychology. *International Journal of Intercultural Relations*, 108, 102240. <https://doi.org/10.1016/j.ijintrel.2025.102240>
- Héritier, A., Roblain, A., Politi, E., & Green, E. G. T. (2025). To re-root or not to re-root after migration? Longitudinal effects of transnational friendship on immigrants' life satisfaction through acculturative processes.

International Journal of Intercultural Relations, 109, 102276.

<https://doi.org/10.1016/j.ijintrel.2025.102276>

- Kunst, J. R. (2021). Are we facing a “causality crisis” in acculturation research? The need for a methodological (r)evolution. *International Journal of Intercultural Relations*, 85, A4-A8.
<https://doi.org/10.1016/j.ijintrel.2021.08.003>
- Kunst, J. R. (2025). Redefining the mainstream: A review and meta-analysis of the evolving dynamics of majority-group acculturation. *European Review of Social Psychology*, 1-51.
<https://doi.org/10.1080/10463283.2025.2492506>
- Kunst, J. R., Lefringhausen, K., Sam, D. L., Berry, J. W., & Dovidio, J. F. (2021). The Missing Side of Acculturation: How Majority-Group Members Relate to Immigrant and Minority-Group Cultures. *Current Directions in Psychological Science*, 30(6), 485-494.
<https://doi.org/10.1177/09637214211040771>
- Kunst, J. R., Ozer, S., Lefringhausen, K., Bierwiazzonek, K., Obaidi, M., & Sam, D. L. (2023). How ‘should’ the majority group acculturate? Acculturation expectations and their correlates among minority- and majority-group members. *International Journal of Intercultural Relations*, 93, 101779.
<https://doi.org/10.1016/j.ijintrel.2023.101779>
- Kus-Harbord, L., & Ward, C. (2015). Ethnic Russians in Post-Soviet Estonia: Perceived Devaluation, Acculturation, Well-Being, and Ethnic Attitudes. *International Perspectives in Psychology*, 4(1), 66–81.
<https://doi.org/10.1037/ipp0000025>
- McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin*, 114(2), 376-390.
<https://doi.org/10.1037/0033-2909.114.2.376>
- Murphy, K. R., & Russell, C. J. (2016). Mend It or End It: Redirecting the Search for Interactions in the Organizational Sciences. *Organizational Research Methods*, 20(4), 549-573.
<https://doi.org/10.1177/1094428115625322>
- Nguyen, A.-M. D., & Benet-Martínez, V. (2012). Biculturalism and Adjustment: A Meta-Analysis. *Journal of Cross-Cultural Psychology*, 44(1), 122-159.
<https://doi.org/10.1177/0022022111435097>
- Rimpler, A., Kiers, Henk A. L., & van Ravenzwaaij, D. (2025). To interact or not to interact: The pros and cons of including interactions in linear regression models. *Behavior Research Methods*, 57(3), 92.
<https://doi.org/10.3758/s13428-025-02613-6>
- Sommet, N., Weissman, D. L., Cheutin, N., & Elliot, A. J. (2023). How Many Participants Do I Need to Test an Interaction? Conducting an Appropriate Power Analysis and Achieving Sufficient Power to Detect an Interaction. *Advances in Methods and Practices in Psychological Science*, 6(3), 25152459231178728.
<https://doi.org/10.1177/25152459231178728>
- Tipton, E., Pustejovsky, J. E., & Ahmadi, H. (2019). A history of meta-regression: Technical, conceptual, and practical developments between 1974 and 2018. *Research Synthesis Methods*, 10(2), 161-179.
<https://doi.org/10.1002/jrsm.1338>
- Titzmann, P. F., & Jugert, P. (2024). The dynamics of acculturative change: The potential of a developmental perspective in acculturation science. *advances.in/psychology*, 2, e553629.
<https://doi.org/10.56296/aip000029>
- Vu, D.-H., & Bierwiazzonek, K. (2025). Comparing bivariate and multivariate approaches to testing individual-level interaction effects in meta-analyses: The case of the integration hypothesis. *advances.in/psychology*, 2, e919144.
<https://doi.org/10.56296/aip000038>
- Ward, C. (2024). Down the rabbit hole: Acculturation, integration and adaptation. *International Journal of Intercultural Relations*, 100, 101978.
<https://doi.org/10.1016/j.ijintrel.2024.101978>
- Ward, C., & Geeraert, N. (2016). Advancing acculturation theory and research: the

acculturation process in its ecological context. *Current Opinion in Psychology*, 8, 98-104.

<https://doi.org/10.1016/j.copsyc.2015.09.021>

- Ward, C., Ng Tseung-Wong, C., Szabo, A., Qumseya, T., & Bhowon, U. (2018). Hybrid and Alternating Identity Styles as Strategies for Managing Multicultural Identities. *Journal of Cross-Cultural Psychology*, 49(9), 1402-1439.
<https://doi.org/10.1177/0022022118782641>
- Ward, C., & Szabó, Á. (2023). Acculturation, cultural identity and well-being. *Nature Reviews Psychology*, 2(5), 267-282.
<https://doi.org/10.1038/s44159-023-00171-2>